Amendments to the Specification:

Please replace paragraphs [0044], [0125], [0126] and [0131] with the following amended paragraphs:

[0044] On the other hand, in order to provide a waveguide plate enabling the conduction of fast analysis with low effort, a waveguide plate is provided, according to the invention, with a plate-like glass substrate (1), carrying a waveguiding layer (2), with at least one coupling grating on the surface carrying the waveguiding layer (2), which coupling grating is formed as a grating of lines with a period between 150 nm and 1000 nm, the extension of said grating being at least 5 cm with lines parallel to one another, wherein the coupling angle (θ) varies by not more than 0. 1°/cm along a line of said grating and wherein the absolute value of the deviation of the coupling angle (θ) on said waveguide plate, from a predefined desired value, does not exceed 0.5°.

[0125] The waveguide plate according to the invention (Figures 1, 2 are schematically and not according to scale) comprises a glass substrate, for example of glass AF 45 from Schott DESAG, with dimensions of 102 mm x 72 mm and a thickness of 0.7 mm, carrying on one surface a waveguiding layer 2 of Ta_2O_5 of 150 nm thickness. The refractive index is, dependent on the manufacturing method, for example 2.11 at 633 nm. Besides Ta_2O_5, also other materials are suited for the waveguiding layer, especially Nb_2O_5, TiO_2, ZrO_2, Al_2O_3, SiO_2-TiO_2, $Hf0_2$, Y_2O_3, SiO_xN_y, Si_3N_4, HfO_xN_y, AIO_xN_y, TiO_xN_y, MgF_2 or CaF_2.

[0126] On the surface carrying the waveguiding layer 2, several coupling grating strips 3 are arranged in parallel to and separate from each other, extending in parallel lines over the whole width of the waveguide plate. The width of each of the coupling grating strips 3 is 0.5 mm. The grating period is Λ = 360 mn, the groove / land ratio is about 1: 1, the grating depth about 20 mn. The parameters defining the grating are always fulfilled very precisely along the full length of the coupling grating strip. Thereby, changes of the coupling angle □, at which angle a light ray, directed from beneath towards the coupling grating strip

3 through the glass substrate 1, is coupled into the waveguiding layer 2 with maximum coupling efficiency, are kept in very narrow limits. Along the lines of a coupling grating strip 3, the coupling angle changes by not more than (at maximum by) 0.05°/cm. On the whole the deviation of the coupling angle from the mean value, which is 2.31° in the described example, is below 0. 15°.

[0131] The optical system for the determination of the parameters for the characterization of a waveguide plate comprises three lasers, or laser diodes as alternative excitation light sources, with emission at 635 nm, 532 nm, and 492 nm. The excitation light from the different lasers is directed onto the coupling gratings of the waveguide plate by means of a system of lenses, apertures (for beam shaping) and mirrors. The last mirror in the excitation light path, before the light hitting the waveguide plate, is mounted on a goniometer (resolution 0.01' in this example), in order to allow for a precise adjustment of the coupling angle or for a deviation of the excitation light for the determination of the total excitation light intensity (I_o) launched onto the waveguide plate, and of the sum of the intensity of the reflected and immediately outcoupled excitation light (I_r, in parallel to the reflected light). The adjustment of the lateral position of the launching of the excitation light onto the waveguide plate (x: normal to the coupling grating strips; y: in parallel to the coupling grating strips) is performed by moving the waveguide plate by means of translational positioning elements (resolution 20 microns in this example).